

What is claimed is:

1. An automatic thread cutting apparatus for sewing machines to cut off yarns and hold the remaining portion of the yarns after sewing operation is completed for use in successive
5 operations, comprising:

a thread cutter including a cutting blade and fixed blades located on a top section of a sewing deck of a sewing machine, said fixed blades including a upper fixed blade and a lower fixed blade that are stacked over each other to form a gap
10 therebetween to allow said cutting blade to pass through for cutting off the yarns, said cutting blade having a first cutting section for cutting off the yarns and a second cutting section to couple with said fixed blades to hold the remaining portion of the yarns;

15 a linkage mechanism including a direction switch section, a first crank lever, a second crank lever, a first linkage bar and a second linkage bar, the direction switch section having one end connecting to one end of said first crank lever, said first crank lever being connected to said second crank lever,
20 said second crank lever being connected to said first linkage bar, said first linkage bar being connected to said second linkage bar, said second linkage bar being connected to said cutting blade; and

a driver mounted onto a bracing section having a moving
25 section coupling with the directing switch section of said

linkage mechanism for driving said linkage mechanism to move reciprocally and driving said thread cutter to cut off the yarns.

2. The automatic thread cutting apparatus of claim 1, wherein
5 said bracing section is fastened to a damper plate which is connected to an elastic element to cushion shock.

3. The automatic thread cutting apparatus of claim 2, wherein said elastic element is a spring.

4. The automatic thread cutting apparatus of claim 2, wherein
10 said elastic element is an elastic reed.

5. The automatic thread cutting apparatus of claim 1, wherein said second crank lever is connected to the first linkage bar through a fastener.

6. The automatic thread cutting apparatus of claim 5, wherein
15 said fastener is a screw.

7. The automatic thread cutting apparatus of claim 5, wherein said fastener is a rivet.

8. The automatic thread cutting apparatus of claim 1, wherein said cutting blade is formed in a hook and connected to said
20 second linkage bar to be swung between said upper and said lower fixed blades to cut off the yarns.

9. The automatic thread cutting apparatus of claim 1, wherein said upper and said lower fixed blades are interposed by a pad to form said gap.

25 10. The automatic thread cutting apparatus of claim 1,

wherein said driver is a bi-directional solenoid.

11. The automatic thread cutting apparatus of claim 1,
wherein said first cutting section and said second cutting
section have respectively a first notch and a second notch,
5 said second notch of said second cutting section being deeper
than said first notch of said first cutting section.

12. The automatic thread cutting apparatus of claim 1,
wherein said cutting blade and said fixed blades are fastened
to a top section of said sewing deck of said sewing machine
10 through fasteners.